Number of Farms, Land in Farms, and Average Farm Size

Year	Number of Farms 1/	Land in Farms	Average Farm Size
	Number	*1,000 Acres*	*Acres*
2002	10,300	26,600	2,583
2003	10,300	26,520	2,575
2004	10,200	26,400	2,588
2005	10,100	26,250	2,599
2006	10,000	26,100	2,610
2007	15,600	26,100	1,673
2008	15,600	26,100	1,673

1/ Farms on reservation land are accounted for individually beginning in 2007.

A Special Note Regarding the 2007 Estimates

Census: The Farms and Land in Farms Final Estimates publication is produced every five years following the release of the Census of Agriculture. The purpose of this publication is to provide any revisions to annual estimates of Farms and Land in Farms based on updated Census data. The Census of Agriculture provides a base from which the annual surveys measure the change from that base. At the end of the next five year cycle, the annual estimates are revised based on inter-Census trends.

The 2007 Census of Agriculture showed a significant increase in the number of farms, and reversed the downward trend that was shown in the annual estimates of Farm Numbers since the 2002 Census of Agriculture. NASS believes that some of the increase is due to methodological changes that allowed NASS to more accurately count small farms in the 2007 Census. This is discussed in more detail below. NASS has concluded that the most appropriate action is not to revise the Farm Number data series between 2002 and 2006. The 2007 Census of Agriculture will form a new base for farm numbers that will be used to anchor the annual estimates for 2008 and beyond.

Methodological Discussion: Each year NASS conducts the June Area Frame Survey (AFS) to provide an estimate of the number of farms and the land in farms. The exception is Alaska, which does not have an area frame and uses a list survey instead. The area frame is stratified by land use. A sample of approximately 11,000 segments of land (each approximately one square mile in size) is selected each year, and field enumerators visit each sampled segment to identify agricultural activity within the segment. The AFS is assumed to provide complete coverage of the universe of farm and ranch operations because the area-based frame covers all land in the U.S.

In preparation for the census of agriculture NASS builds the Census Mail List (CML) consisting of all known farms and potential farms. In addition, NASS uses the area frame sample to measure and account for the incompleteness of the CML in a dual-frame estimation procedure. This dual-frame estimation procedure assumes complete coverage of the universe of farm and ranch operations because the undercoverage of the CML is accounted for through the area frame sample.

Results from the 2002 Census of Agriculture indicated undercoverage of farms in the lowest value of sales categories. This category includes a high concentration of disadvantaged and minority farm operators. In preparation for the 2007 Census, NASS exerted more extensive efforts than in previous censuses to build a comprehensive list. Additionally, NASS worked with several community based organizations and producer groups to enhance awareness, to increase response, and to improve coverage of these types of farms. This resulted in a 2007 CML with 3,194,373 records as compared with 2,841,788 in 2002. Additionally, NASS augmented the area frame sample with segments that were located in areas where small and minority operated farms were likely to be located.

The 2007 Census of Agriculture produced a greater number of farms in the lowest value of sales categories. The extensive list building efforts and the augmentation of the area frame sample allowed NASS to capture more of the small farms with less than $10,000 in value of agricultural sales. Additionally, 2007 was a year of relatively high commodity prices. As the value of farm commodities increased, more very small operations are able to meet the $1,000 value of sales threshold to qualify as a farm in the census.

After the 2007 Census of Agriculture NASS conducted a classification error research study for the census in five states. The study used data from the 2007 AFS and the 2007 Census of Agriculture to examine whether there were farms incorrectly classified as nonfarms, and whether there were any nonfarms incorrectly classified as farms. Records in the 2007 AFS were matched to the 2007 census using probabilistic record linkage. Records whose farm status differed in the two data collections were interviewed to determine which data source was correct.

Results of the study showed that where there were discrepancies in farm status between the two reports, the census data was more often correct than the AFS data. Some AFS farms had not been correctly classified by the enumeration and processing procedures. These results challenged the NASS assumption made for its annual estimates that all farms are captured using the AFS estimation procedures. This assumption had been made on the basis of the completeness of the frame, the high quality of the personal enumeration mode utilized for the data collection, and the extensive training of field enumerators collecting the data. However, the more extensive census procedures using dual-frame estimation produced a larger farm count than the AFS estimation. This result and the results of the research study provided evidence that the AFS procedure is underestimating the number of farms. Because the AFS estimate is the major indicator for producing annual farm number estimates, it is likely these farms were also underestimated in the non census years.

The 2008 and the revised 2007 farm number estimates reflect adjustments in the number of farms based on estimates produced by the 2007 Census of Agriculture. NASS has launched a research initiative to address the methodological issues discussed above.